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THE EDITORS SAY:

Research Has Problems, Too!

THE FIRST two issues of this new publication carried a feature article. The present issue has several features. Foremost is the annual classified bibliography of California theses and dissertations completed during 1949. This feature will appear annually in the May issue of the Journal.

We believe that the bibliography will serve a useful purpose in addition to that of serving as a record of 1949 graduate research in Education. Previous bibliographies (two others were issued in mimeograph form by the CTA Research Department) have proven to be of value to graduate students and their advisors in surveying the field of possible research problems.

Since the bibliography of theses and dissertations constitutes the major portion of this issue of the Journal, we deemed it appropriate to include the articles by Dr. Truman L. Kelley and Dr. George H. Geyer. Neither of these men needs an introduction to the readers of this magazine. Their articles deserve thoughtful study and planned action. Both articles contain forthright statements of concern to research people. Dr. Geyer's article deserves more than a little attention by the education leaders of California. In fact, his comments at this time will serve as excellent background for appreciation of the recent report of the Chief of the Bureau of School District Reorganization, California State Department of Education. This report reveals that 79 per cent of redistricting elections held in California during the fall of 1949 failed of passage. Only four of nineteen proposals carried. The report states "in areas where public hearings were attended by speakers capable of giving the correct facts regarding the reorganization proposals, a more favorable vote was cast."

Could the aid of research in education be more clearly challenged? Dr. Geyer has put his finger on an area in great need of intensive and immediate study. Graduate students, take note!

Because of the inclusion of the bibliography of theses and dissertations, two usual features of the Journal had to be omitted from this issue: *Research News and Views* and *Book Reviews*. They will be resumed in September.

Before the summer respite, may we suggest that you take the time to write "that" article on your research problems. It may be worthy of publication and we'd like to see it.

A NEGLECTED AREA OF NEEDED RESEARCH: School District Reorganization

GEORGE H. GEYER

San Diego Unified School District

Introduction

BETWEEN 1919 and 1937 four independent statewide surveys indicted California's school district system. The indictments by the first that ". . . [California's school] district system is expensive, inefficient, shortsighted and unprogressive . . ." (1) were supported by the succeeding three. The survey of 1937 furnished a virtual summary of the previous studies when it reported, "California has been content to 'muddle along' with a cumbersome, antiquated organization because, plainly speaking, it has been able to afford to do so." (2)

The vulnerability of California's district system had become so widely recognized by 1945 that the Reconstruction and Reemployment Commission reported simply, "Everyone is familiar with the importance of achieving a more satisfactory school district organization in the State of California." (3)

There remained then only the question of what methods to use in reorganization procedure. The Reconstruction and Reemployment Commission recommended the establishment of a statewide program of optional reorganization. This recommendation called for three provisions of equal importance based upon the results of national experience:

1. A Statewide organization to promote a study of the problem.
2. Provision for reorganization by majority vote in the area under consideration.
3. Financial incentives to areas that reorganize. . . .

State Commission on School Districts Established

The 1945 California Legislature, in recognition of the need, but lacking a united support from the education profession, established a program that

Dr. George H. Geyer is well qualified to discuss the problems and needs of school district reorganization in California. He served as State survey director of the California Commission on School Districts from 1946 to 1949. Prior to that time, he had served for three years in the United States Army. From 1939 to 1943, Dr. Geyer was a director at Glendale Junior College. His present position is assistant superintendent of the San Diego Unified School District.

had but the first of the three recommended provisions.¹ The State Commission on School Districts was established and was directed to carry on a study of the state through local survey committees and regional commissions. It was directed further to consider, for approval or disapproval, recommendations by local committees for reorganization and to direct the calling of local reorganization elections.

During the three years of its operation, the Commission directed surveys in all counties in California.² More than 1,200 regional commission, local survey committee and trustee members participated in this statewide study. Seventy-seven local committee recommendations for reorganization were approved by the Commission. Of these, only fifteen were accepted by local electors.

Major Findings of the Commission

The experience of the Commission and the reports of local committees substantiates the need for district reorganization as submitted by the studies prior to 1940. The Commission found that:

1. California has more than two and one quarter thousand school districts. Almost half of them support only one- and two-room schools.
2. California's school district organization system is expensive to the State and to local communities. It contributes to state and local inefficiency in the assignment of professional personnel, in the building of school buildings and in any attempt to provide equal educational opportunity for children. The district organization pattern contributes to confusion in administration and control. It tends to increase authority on the state and county levels and it stands as a threat to local control of education.
3. Present methods of distributing State school funds for district aid, as well as for the supervision of instruction, tend to over-subsidize and over-encourage the life span of hundreds of small, weak and inefficient school districts and to retard local efforts to create strong, efficient ones.(4)

Obstacles to School District Reorganization

Chief among the obstacles which prevent or retard acceptance of good school district reorganization by the affected voters are certain provisions of the *Education Code* relating to the apportionment of the State School Fund.

Upon the basis of this evidence, the State Reconstruction and Reemployment Commission reported in 1945 as follows:

"... care should be taken that State aid is not so employed as to hold back district consolidation."

"Experimental aid . . . supplemented by further study, should lead to a more complete policy of transportation aid as a fiscal incentive to better districting."

"California ought to accompany its planning for and encouragement of more

¹ The second, vote by majority in the area, was provided in part by the Legislature in 1947, but the third, financial incentive to reorganization, has yet to be provided.

² The County and City of San Francisco is the single exception.

satisfactory district organization with reasonable capital outlay aid."

"The County Office is unquestionably an important factor in improving district organization. Its leadership can go far in attaining better district structure. Therefore, . . . more adequate financing of [County Office services . . . will be in some measure at least offering a real fiscal encouragement towards better districting."

"Positive encouragement to organize larger administrative units should be provided in the form of financial inducements (of two types):

- (a) to encourage the organization of more satisfactory administrative units, and
- (b) to encourage the formation of more satisfactory attendance areas within the reorganized administrative units."(3)

In 1949, the Council of State Governments reported that:

"Reorganized districts [should] receive more favorable treatment in distribution of state funds . . . Financial penalty [should be imposed] on small schools or small districts if they continue to operate . . . State aid for school buildings and transportation [should] encourage reorganization."(6)

To date, California fiscal legislation not only does not contain provisions to stimulate good district reorganization, but actually places a financial premium upon retaining the existing inefficient district organization.

Non-Fiscal Obstacles to Reorganization

The following questions with accompanying discussion indicate some other obstacles to school district reorganization—very real obstacles which arise from the feelings of people and from the lack of competent research data:

1. *"What evidence can you give me that children are better served in a unified school district?"*

The majority of California's children are educated in unified school districts, or in districts administered in a unified manner. The unified school district is the prevailing pattern of organization in all but a handful of states.

California's ancient, dual-control system (average situation is seven independent elementary districts operating within one union high school district) has been severely indicted over the years by educational and lay authorities within the State and nationally. No logical case has ever been made for multiplicity of school boards and school administrators operating at different educational levels in a natural geographical and economically integrated area.

But the critical and sometimes hostile citizen remains unconvinced and unmoved by such generalities and such "expert opinion." The only way to cut the ground from under his argument in behalf of the *status quo* is to accumulate irrefutable evidence — if such exists — that children are better served in a unified type of school administration. Such studies as have been made in California in very limited areas, and usually not well controlled, tend to indicate that a goodly number of children in rural sections

of the State are handicapped in their preparation for high school by California's frontier-day elementary district pattern. California is sorely in need of facts based upon a comprehensive study of this question.

2. *"What evidence can you give me that the unified school district can operate an educational program more efficiently than our present districts can?"*

Here again we have virtually an unknown territory. Definitive research data with which to answer this question in terms of the California scene are virtually non-existent. We can make some excellent and logical general statements, we can quote much expert opinion from all over the nation, we have good research data from other states, notably from New York and Illinois (5), but California research in this field on a scale comprehensive enough to be definitive in answering the question is yet to be conducted.

3. *"What is the true cost of California's 1,000 one- and two-teacher schools?"*

It is known, for instance, that in a fairly typical rural county (4) the following mean costs were officially reported for various sizes of elementary schools for 1948-49:

Two largest districts (total of 1,221 pupils).....	\$140
Six "middle size" districts (total of 806 pupils).....	\$186
Twenty-four one- and two-teacher districts (total of 440 pupils).....	\$266 ³

It is also known that approximately \$65,000 of the State School Fund was apportioned in 1948-49 to the County Service Fund of this county. Unknown is the amount by which the costs of each of the schools of this county would be increased if this additional State money were to be charged to each of the thirty school districts in proportion to the educational services received by each from the county superintendent's office.

4. *"What value to the average student is the highly academic program typical of most of California's very small high schools?"*

There are approximately 100 high schools in California under 100 a.d.a. The program offered to their students is from 80 to 100 per cent college preparatory. A comprehensive study of the success of the graduates of such schools in college has never been made. Such evidence as exists, however, indicates that they compete on fairly even terms with their peers from larger high schools.

The economic and educational wastefulness, if any, of the very small high school will be determined only by a carefully conducted study of the contribution these schools make to the great group of their graduates who do not go on to college as compared to the contribution made by a large

³ In this and many other rural counties, the local taxpayer in the smallest and most expensive districts, subsidized out of all reason by the State if *true costs* were known, is paying less than half the property tax rate paid for elementary school purposes by a resident of any one of our unified or city school districts! Is it any wonder that favorable votes on a reorganization proposal are so difficult to secure?

rural high school with a comprehensive curriculum. Such a study is obviously a long-term proposition. It is vitally needed in view of the fact that, from a geographical standpoint, at least half, if not two thirds, of California's small high schools no longer have any justification for existence. But until the evidence is in, it is difficult to convince parents or teachers that many of these schools should be abandoned or converted into junior high or elementary schools.

5. *"What is the optimum size of school districts for the various geographic, economic, and social characteristics of a state so large and so diversified as California?"*

It is held by some that school districts can become so large that they no longer serve the best interests of pupils, patrons, and citizens generally. No program of school district reorganization on the local level can ignore the fears of bigness, or of centralization of power. There are many districts in California large enough to be efficient and economical educational units which are quite responsive to the wishes of the citizens and school patrons residing within their boundaries. The records of such districts need to be collected via the techniques of historical research, analyzed, and disseminated throughout the State.

Research Needed

The above research topics and others need thorough development if needed reorganization of school districts is to be facilitated in many parts of California. If the college and university departments of education, of political and social science are unable to conduct such studies because of budgetary limitations, some other agency must assume the responsibility if reorganization by vote of the electors residing in the affected districts is to be achieved on any satisfactory basis. The only alternative is a constitutional amendment.

To reorganize school districts, according to all studies conducted by qualified authorities throughout the nation, it takes financial incentives.(5)

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The Why and Whither of Educational Research

TRUMAN L. KELLEY

Santa Barbara, California

WITH the establishment of the *California Journal of Educational Research*, it is timely to discuss the purposes, the methodology, and the hoped-for outcomes which may well loom large in its forthcoming articles.

Of course, space should be given to local issues, such, for example, as "The School Tax Unit in Orange County," but it is to be hoped that a locally inspired study will be concerned with principles that are broad in scope. If an Orange County article is of interest to an educator in Inyo or Siskiyou it will surely be of concern far beyond the boundaries of California. We can hope that problems in school administration, educational psychology, curriculum content, personal and social adjustment, though locally inspired, will have significance which is not limited to the provincialism of their origin.

As a part of a great nation our local problems of individual and social adjustment are national problems as well. We must respect the local and specific as a source of illumination to the state and to the nation. These adjustment problems penetrate so far and so subtly into our social fabric that they may well represent the major concern of this new Journal. However, let us here attend, not to the subject matter of research, but to its social and administrative purpose and to its methodology.

Research Vocabulary or Pedagese

I believe, by studying the meanings of certain terms, we can bring to light characteristics of research which all should seek. A usage of language in a manner peculiar to pedagogy is not *per se* an undesirable practice; it all depends upon the attendant connotations. Certainly every science has developed its own vocabulary.

Consider the expression "felt difficulty," so prevalent in educational literature a generation ago. This expression would jar the layman upon his initial contact with it. He pauses, brings up no memory associations and then infers a meaning, a right meaning, and gains an enriched understanding. If this be pedagese, it is at its best.

Dr. Truman L. Kelley, an eminent authority in the analysis and measurement of mental traits, has had a long and fruitful career in the field of educational research. He recently concluded a span of 40 consecutive years of teaching and research. He has taught at the following universities: Georgia Tech, Illinois, Columbia, Texas, Stanford, and Harvard. He has published many books and professional articles. Dr. Kelley retired from Harvard University last year after having served the institution since 1930. He now resides in Santa Barbara, California, where he is continuing his writing.

Consider "an apperceptive system." The layman pauses, is uncertain of its meaning and is perchance annoyed. But the expression carries a red flag; it cries aloud, "I am a technical expression, and if you don't understand me go back to your text and read up." If the reader does that, he again gains an enriched understanding which is precise and useful. This is pedagese at its second best.

Consider "evaluation." There is no jar nor red flag. The layman who has but a single course in algebra has many associations with the mathematical term. He easily assumes a meaning for the word, but the trouble is that he is wrong in attributing to it the precision, the objectivity and the lack of personal judgment which has characterized his first and only experience with the term. This is pedagese at its worst.

How does the school man who is fond of this term actually employ it? I believe the term, as an educational term, was conceived to cover a procedure less precise than that represented by quantitative test results, not more precise as the mathematical term implies. Thus a test man, or director of research, might give a test and report the scores to the superintendent of schools. All too frequently he will take them, shade them, assume that they have significance in areas beyond that represented by the function in the test, and reach a conclusion, say a rule of conduct. That a rule of conduct is in operation may be necessary and thus fully justified, but that it is called an evaluation of the data we can and should object to. It is not an evaluation by any primitive meaning of the term; it is not that in the informed layman's interpretation of the word; and it is not that because of the logical processes followed. In short, the term is misleading, and it is shrouded in mystery and mysticism.

Research Must Be Definitive

I hope that I have made a point that extends far beyond the meaning of a single term, the point being that educational research has definitive results which may be pointed to with pride. We ask that they be taken at their face value; that the significance of these results, gotten in a definitive manner, be related to other matters of importance by equally definitive processes (correlation, etc.); and, finally and most important, that when one steps beyond these definitive outcomes and assumes other outcomes he does not hide behind a false front and that he does not claim that the earlier precision is continued to his final conclusions.

To be fair to the "evaluators" we should note that what they have done has generally been done in good faith. Though illogical, many an evaluator actually believes that he is more able to appraise the "true significance" of the data than the director of research who is intimately acquainted with the tests involved, with the limitations of administration, with the idiosyncracies of the samples studied, and with sundry reported reliability coefficients and correlations. This is just another illustration of

the frequently recurring claim of certain lesser philosophers that scientists are to provide the data and then a higher species, the philosophers, are to interpret them.

When we find in educational circles, as we do, men who assert that scientists, from the very nature of their processes, are unable to understand the real significance of their findings, we can but believe that we are witnessing uninhibited egotism having no sense of humility or belief in the majesty of God and the ingenuity of His ways. These prophets assert that the scientist does not understand the ultimate purpose of life and that he is unable to knead his data into conformity therewith. Though correctness is not their *forte*, they are right on both of these counts. Ultimate purposes are not useful in resolving proximate difficulties, and data have a dignity of their own which will not tolerate warping. For an interpretative device to be useful it must have a restricted standard error, and it is axiomatic to the scientist and should be to everyone that the more remote the conclusion, the greater is its presumptive error.

Significance of Experimental Findings

What is the real significance of an experimental finding? Certainly "real" has a useful meaning other than "ultimate." Today's hangover is real. It sprang from a real occurrence of yesterday and with high probability (perhaps knowable probability) it will lead to real changes tomorrow. There is meaning in the events of a time span, be it short or of appreciable duration. There is meaning in the various events of a spatial span, be the boundaries narrow or quite large. There is meaning in a functioning individual psychological span, be the aspects of life which find expression restricted or quite broad. The person of intelligence who experiences or lives through these spans is more able to find this meaning than one, even of equal intelligence, who views them from a distant cloud.

The meaning of phenomena can never be divorced from the setting and the details under which it occurred. This is not ultimate meaning (except in the sense that the moment is ultimate), but a meaning of a more useful and heartwarming sort, which guides from the known past through the perplexing present to a more enlightened near future.

That an administrator, who cannot understand the connection between yesterday and tomorrow, or between an alpha and a beta particle, should take possession of the philosophers throne and assert that he knows the primitive springs and the distant goals of existence would be amusing were it not for the fact that he frequently dictates social conduct, and like every dictator he does but engender future woe. Knowledge of the path is the scientist's objective, and the virtue of it is his religion.

Certainly experimental research from given conditions to useful conclusions is an arduous process and there is no substitute for it.

The Interrelationships of Measures of Personality, Adjustment, and Teaching Success

MORROW F. STOUGH

San Diego State College

WHO is the master teacher? The fact that he is gradually assuming a new, broadly-conceived role has tended to complicate teacher-selection and the evaluation of teaching success. The artist teacher has not only qualities such as skill in "putting across" knowledge and interest in increasing general knowledge, but others like community-mindedness, skill in cooperation, social understanding and behavior, understanding children, and faith in the worth of teaching. (1:154-75)

Many of these qualities are based upon fundamental skills and an interest in interaction with other human beings. Rummell (2) calls it "artistry in human relations." These qualities would seem to imply further a feeling of security in or harmony with the environment.

Where might one find evidences of these aspects of personality and adjustment at work in the field of teaching? Would it be profitable to explore such problems as: (1) Why are teachers released from their positions? Should not "poor discipline" for example be analyzed more closely into the interrelationships of factors in both pupils and teachers? (2) Who are the teachers seeking personal and professional guidance? Should the concept of teaching efficiency include some measure of physical and mental energy which each teacher puts into his work? (3) For what mental disorders are teachers hospitalized? Are teachers in particular susceptible to such disorders?

Present Study

A survey of the research on such problems as the above have provided the writer with clues for an investigation of the relationships among measures of teachers' personality, adjustment, and teaching success. Attention has been given to factors in student-teachers' "test personalities" which seem to affect teacher-pupil relationships and teaching success both in the

Dr. Morrow F. Stough has recently joined the staff at San Diego State College and holds the rank of assistant professor of education. He formerly served as supervisor of elementary education at the University of California, Berkeley. He has also taught in the public schools in Pennsylvania and New Jersey. Dr. Stough's article is based upon his doctoral dissertation which was completed last January at the University of California, Berkeley.

teacher-education institution and in the field. Data gathered during the student-teaching period were used to predict success in the teacher's first year of professional service.

Fifty-seven men and forty-three women, representing seven subject-matter fields on the secondary level, were given the following four personality and adjustment inventories: the *Minnesota Multiphasic Personality Inventory*, the *Johnson Temperament Analysis*, the *Thorpe and Clark Mental Health Analysis*, and the *Bell Adjustment Inventory*. Among the forty subtests were several that seemed to be related to the personal qualities which were descriptive of successful and unsuccessful teachers. These subtests or scales measured the following items: Depressive, Subjective, Self-mastery, Adequate Outcomes and Goals, Schizophrenia, Social Participation, Psychastenia, and Psychopathic Deviation.

Teaching success was measured in terms of supervisory ratings, reactions of over four thousand pupils, and administrators' ratings.

To facilitate treatment of the data, two extreme groups of teachers consisting of the twenty-five per cent most successful and the twenty-five per cent least successful were chosen on the basis of the above three criteria. The mean scores of these two groups were compared on each of the forty subtests to determine if there was one chance in a hundred of their not being really different.

Findings

1. Both sex groups were normal and stable. Temperament profiles for both groups were distinguished by high scores on the "affection syndrome" made up of the traits: Active, Cordial, and Sympathetic. Poorest adjustment scores were recorded on the subtests, "Schizophrenia" and "Social Participation."

2. On several subtests the mean scores of one group of male student-teachers, who were most highly approved by pupils, differed significantly from comparable scores of an opposite group which was least highly regarded. The chances are ninety-nine in a hundred that the mean scores of the two groups are really different on the following subtests: "Depressive" and "Self-mastery" on the *Johnson Temperament Analysis*, Total Score on the *Bell Adjustment Inventory*, and "Depression" and "Schizophrenia" on the *Minnesota Multiphasic Personality Inventory*. In other words, pupils react most favorably to male student-teachers who are not depressive, disorganized, withdrawing, or insecure; to those who are composed, participate in group enterprises, and are happy with their work and recreation; to those who face reality, are not excessively worried, and are not lacking in self-confidence.

3. The criterion of supervisory ratings showed fewer significant differences between extreme groups. It would seem that with this sample of

male student-teachers the criterion of pupils' reactions is more closely related to differences in "test personalities" than is the criterion of supervisory ratings.

4. Means for criterion-groups of women differed somewhat on several subtests: "Self-mastery," "Home Adjustment," and "Behavioral Immaturity." The differences between the female criterion-groups were not so clear-cut as those for the male groups.

5. Follow-up reports of a "more promising" group of twenty-one male student-teachers selected on the basis of having above average scores (within their own group) on four out of five subtests ("Adequate Outcomes and Goals," "Depressive," "Self-mastery," "Schizophrenia" and Bell Total Score) indicated that administrators considered eighteen teachers to be above average or superior and three average or below average. In a "less promising" group of fourteen male teachers scoring below average on at least four of the five scales mentioned above, administrators found three teachers to be above average and eleven average or below average.

6. Application of the same selection technique to the female student-teachers produced a "more promising" group of fifteen, a "less promising" one of ten teachers. All fifteen in the former group were rated by administrators as above average. Six of the latter group of ten "less promising" teachers were considered to be above average; four, average or below average.

TABLE I
COMPARISON OF MEAN SUBTEST SCORES OF MALE TEACHERS
RATED HIGH AND LOW BY BOTH SUPERVISING
TEACHERS AND ADMINISTRATORS

SUBTEST	High Score Group	Low Score Group	Difference	Significant Ratios (%)
<i>Johnson Temperament Analysis</i>				
Nervous	61.7	68.2	6.5	2.91 (1)
Depressive	60.0	70.3	10.3	4.81 (1)
Subjective	65.5	72.7	7.2	2.24 (5)
<i>Bell Adjustment Inventory</i>				
Social	4.1	9.1	5.0	3.55 (1)
Total Score	13.7	28.7	15.0	4.83 (1)
<i>Mental Health Analysis</i>				
Close Personal Relationships.....	18.8	17.2	1.6	2.68 (2)
Social Participation	16.4	12.9	3.5	2.05 (5)
<i>Minnesota Multiphasic Personality Inventory</i>				
Depression	15.7	19.9	4.2	2.82 (2)
Psychasthenia	4.2	10.9	6.7	3.56 (1)
Schizophrenia	3.8	8.5	4.7	2.43 (2)
Psychopathic Deviation	11.1	15.0	3.9	3.82 (1)

In a final treatment of the inventory data, two groups of male teachers were chosen on the basis of having received superior ratings in both student-teaching and in the field. Significant differences appeared on these subtests: "Social Participation," "Subjectivity," "Depression," "Psychasthenia," "Schizophrenia," and "Psychopathic Deviation." All would seem to affect relationships of the teacher with pupils, administrators, other teachers and community. Table I presents the more significant t-ratios.

Subjective, depressive, withdrawing — these are some of the personal traits of the moderately successful or unsuccessful male teacher who has finished one year of professional service.

Conclusion

The findings point out that these secondary school teachers, just as others have been in the past decades, were released from their positions or given "average" ratings because of deficiencies in class management, in establishing harmonious relationships with pupils, and in "getting along" with co-workers and supervisory staff. The old belief that good planning equals good teaching is not necessarily true. The personal factor must be considered.

These findings further indicate that teachers in the secondary schools should assess carefully their personal qualities and check them against those which have been shown to affect interpersonal relationships. Too often the field of secondary education attracts individuals who become so steeped in subject matter that they are blinded to the "human relations" requirement for successful teaching.

Principals, supervisors, and superintendents might well deduce from this study the importance of their role as administrators of personnel. Throughout the research findings, *morale* is the common element which seems to discriminate between successful and unsuccessful teachers. It is within the province, as well as an obligation, of every administrator to provide a healthy psychological climate for the teacher-personnel. Depression, indifference, feelings of inferiority, isolation, and an air of subjectivity masking feelings of lack of confidence, are some of the symptoms requiring immediate attention. They affect teacher-efficiency; they affect the emotional climate in the classroom. They are amenable to change.

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California School Administrative Codes— Their Contents¹

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IN A study of administrative codes in the public schools of California the writer, as reported in a previous article, determined the extensiveness of their use and described their format. This article attempts to analyze the general content of the codes.

An analysis of the content of the administrative codes immediately raises the question of what matters are included. A perusal of the codes reveals a wide variation of treatment and organization of contents. This study is based on an examination of the major subjects listed in the tables of contents or found from an analysis of the documents.

Findings

A tabulation of certain major subjects contained in the administrative codes is found in Table I. The subjects listed in the table are not all treated as such in each of the thirty-one codes. This does not mean that reference to them is excluded from some of the codes.² Reference to the subjects in Table I was noted in each of the documents examined. However, variations show differences in emphasis, organization, and reveal the peculiar needs found in the school districts.

Topics Included

It may be noted in Table I that the frequency with which the major topics are treated ranges from 100 per cent for the "Board of Education" to 45.1 per cent for "Supervision." The subjects listed in the table are the ones on which there was the greatest amount of common treatment.

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¹ This is the second article by Dr. Florell on California School Administrative Codes. In the March issue he described the use and format of such codes. The present article, which concludes the series, presents some pertinent facts regarding the contents of administrative codes.

² For example, in one code some reference to teachers was made under the heading, "Miscellaneous."

TABLE I

THE NATURE AND FREQUENCY OF CERTAIN MAJOR TOPICS FOUND IN
THIRTY-ONE ADMINISTRATIVE CODES OF PUBLIC SCHOOL SYSTEMS
LOCATED IN VARIOUS SIZED CITIES OF CALIFORNIA

	Group I Over 100,000	Group II 30,000 - 10,000	Group III 10,000 - 5,000	Group IV 5,000 - 10,000	Group V 2,500 - 5,000	Group VI Below 2,500	
Number of Codes.....	4	7	6	4	6	4	
Major Topics Included				FREQUENCY OF MENTION			Total
Board of Education.....	4	7	6	4	6	4	31
Superintendent of Schools	4	7	6	3	6	4	30
Teachers	4	5	6	4	4	3	26
Subordinate Officers of Administration	4	7	6	3	4	1	25
Non-Certificated Personnel	4	3	5	3	5	2	22
Pupils	4	4	5	1	3	3	20
Property	4	4	3	2	4	3	20
Miscellaneous	3	5	5	1	4	1	19
Supervision	3	6	4	0	1	0	14
							45.1

Board of Education

Since an administrative code is a document containing the policies, rules and regulations of a board of education, it might be expected that all codes would in some manner deal with the governing board. However, an analysis of policies relating to the governing board reveals a wide variation in treatment. The more significant items considered in the various codes include the following:

1. Organization of the Board.
2. Function of the Board and Board Officers.
3. Meetings of the Board.
4. Transaction of Business.
5. Constitutional or Legal Authority for the Board.
6. Election, Term, and Compensation for Board Members.
7. Suspension, Alteration, and Amendment of Board Rules.

Superintendent of Schools

Thirty of the thirty-one codes, or 96.7 per cent, give major consideration to the superintendent of schools as the chief executive officer of the board. The more significant elements covered are the following:

1. Employment, Term, and Compensation.
2. Duties, Responsibilities and Powers.
3. Relationship to the Board and to Other Members of the Staff.

Teachers

The major subject of teachers is dealt with in 83.8 per cent of the codes. As in the case of other topics, the scope of coverage varies but the most common statements of policy include the following:

1. Employment.
2. Assignment.
3. Salary Schedule.
4. Powers, Duties and Responsibilities.
5. Leaves of Absence.
6. Tenure.
7. Professional Conduct.
8. Retirement.

Subordinate Administrative Officers

Policies concerning subordinate officers of administration as a major subject were found in 80.6 per cent of the administrative codes. Some of the common subordinate officers include deputy superintendents, assistant superintendents, principals, vice-principals, and deans. The more important policies covering these positions have reference to these items:

1. Employment and Term of Office.
2. Duties, Powers and Responsibilities.
3. Relationship to Other Staff Members.

Non-Certificated Personnel

Policies regarding non-certificated personnel were found in 70.9 per cent of the codes. Non-certificated personnel include such persons as secretaries, stenographers, clerks, engineers, custodians, gardeners and bus drivers. In some of the larger city districts such persons may be subject to the classified personnel service. Policies most frequently deal with these factors:

1. Employment.
2. Assignment.
3. Promotion.
4. Salary Schedule.
5. Powers, Duties and Responsibilities.
6. Relationship to Other Employees.

Pupils

Slightly less than two thirds, or 64.5 per cent, of the codes contain policies giving major consideration to the subject of pupils. The more common of these are the following:

1. Rights and Responsibilities.
2. Conduct.
3. Student Activities.
4. Attendance and Absence.
5. Home Study.

School Property

As a major topic concerning which there were school board policies, the subject of school property was listed in 64.5 per cent of the codes examined. The more important matters dealt with under this heading were:

1. Protection.
2. Rental.
3. Insurance.

Supervision

The last heading, "Supervision," as listed in Table I was included in 45.1 per cent of the administrative codes. Policies relating to supervision are most frequently found in the larger school systems where specialized personnel for this type of work are employed. Specific elements of policies relating to supervision include the following:

1. Employment.
2. Duties and Responsibilities.
3. Relationships to Other Staff Members.

General Observations

1. Great differences exist in the organization of contents. While some similarities are found in the comparison of codes, the differences are most conspicuous.
2. Great differences exist in the extensiveness with which various topics are treated. These differences are most pronounced in a comparison of codes found in the largest school systems with those in small schools. Some codes were so brief as to be practically useless.
3. The codes are generally organized in terms of personnel — their powers, duties and responsibilities. Most frequently the codes take into account an administrative hierarchy including the governing board; superintendent; deputy, associate or assistant superintendents; principals; and vice principals.
4. Policies and rules and regulations to a certain extent duplicate those established by the State Education Code and the State Board of Education.
5. Statements of policy usually have reference to the whole school system. While some rules and regulations are specific, they generally apply to all personnel within a classification. Details of administration within a specific school are left to the superintendent and principal, but any further rules and regulations must not be in conflict with those of the governing board or with established policies.
6. Administrative codes are concerned with the *processes* of administration. Only scant and infrequent mention is made to *democratic* procedures of administration. The delegation of authority and responsibility is definite and clear-cut, but the manner in which they are exercised is a matter of executive judgment.

Interpreting Test Results to Teachers

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THREE are many ways of learning about children. Among these are: (1) observation; (2) listening to the child's own story; (3) home visits and conferences with other teachers, children, etc.; and (4) standardized tests. While the following discussion will be concerned entirely with standardized test results, *we must keep in mind that these tests and these test results are only one way to learn about children.*

A standardized test has the following characteristics:

1. Each item has survived most careful scrutiny, the difficulty and value of each being determined by rigid experimental and statistical techniques.
2. The administration of the test has been standardized (directions, time limits, and so forth).
3. The scoring has been standardized.
4. Norms are available.

Test Norms and Their Application

Norms are not standards. A *standard* implies an objective to be reached. A *norm* is a measure of the status quo of the sample upon which the test has been standardized. As a rule these groups are large anonymous groups of public school children upon whom the test publishers have tried out their tests. Often little is known about these norm groups and the school systems from which they have been drawn.

When a teacher expects his class to measure up to norms, he assumes that his class is comparable with the norm group. The following are often uncontrolled variables operating differentially between the norm group and a particular class being tested:

1. Instructional program and objectives.
2. Length of school term.

The main purpose of a testing program is to obtain information which may be used for the improvement of instruction. Research workers are continually faced with the problem of interpreting test results to teachers in a meaningful way so that instruction can be improved.

In this paper, Mr. Taylor describes the kind of presentation and interpretation of test results which has been made to teachers in the Alameda County Schools.

— *Editor.*

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3. Adequacy of teacher training and experience.
4. Adequacy of textbooks and instructional materials.
5. Entering age of pupils.
6. Cultural level of communities and intelligence of pupils.
7. Rate of elimination from school.
8. Grade placement of subject matter.
9. Promotion policy (acceleration and retardation).

In spite of the overwhelming evidence indicating the evils of retardation, many schools base pupil promotion on pupil achievement. This is particularly true in the Midwest from which many norm groups are drawn. A California school may be at a disadvantage when being compared with these norm groups simply because of the lower average age of the youngsters.

We could improve our performance on standardized tests by raising the entrance age of pupils, by immediately eliminating large numbers of slow learning youngsters from our schools, or by establishing strict achievement criteria for pupil promotion. The entrance age is fixed by law but unfortunately the other measures can be used by administrators in order to make a "good showing."

It is easy to over-emphasize the value of national norms in specific situations. This does not decrease the value of some standardized tests so long as interpretation is made in light of local conditions.

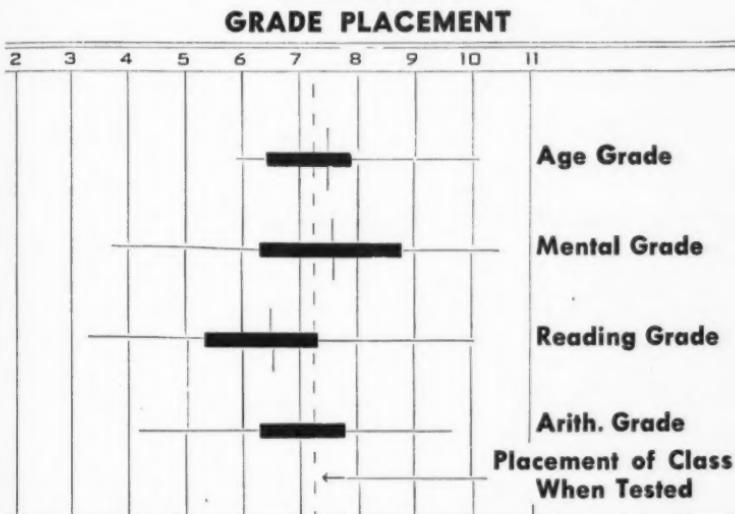
Analysis of a Testing Program

Figure 1 is a graphical presentation of test data obtained from a seventh grade class of forty pupils in an Alameda County School. The tests used were the California Test Bureau's: *California Test of Mental Maturity*, *Progressive Reading* and *Progressive Arithmetic*, all of the Intermediate level. The heavy bars indicate the spread of the middle fifty per cent of the class, the light horizontal lines extending beyond the heavy bars indicate the spread of the upper and lower twenty-five per cent of the class.

The wide spread of the class as a whole is immediately apparent. There is a range of 4.1 years in chronological age. According to age, some youngsters should just be entering the sixth grade while others should be in the sophomore year of high school. The spread of mental ability is even more marked. Some youngsters are able to do no better than third grade work while others are capable of being high school sophomores. A similar range of differences exists for achievement in reading and arithmetic.

The grouping of the middle fifty per cent near the lower end in Age Grade reflects the degree of retardation present. It has been easy to keep out those who are "too young" for seventh grade, but this teacher or administrator has not been willing to advance all those who are really too old to stay in the group.

FIGURE 1
CHRONOLOGICAL, MENTAL, READING AND ARITHMETIC GRADE PLACEMENTS FOR A SAMPLE SEVENTH GRADE CLASS OF FORTY PUPILS IN ALAMEDA COUNTY



The spread in reading achievement is much greater than in arithmetic. This is probably due to more grouping for reading instruction than in arithmetic. In spite of this, reading achievement is a half year below arithmetic achievement and probably reflects the presence of bilingual pupils in the class. These bilingual children are handicapped in all language tests.

Five questions seem relevant at this point:

1. Are all these children really in the same grade?
2. Can they all use the same text books?
3. Are we being fair to the bright pupil?
4. Are we building up a defeatist attitude in the slow pupil?
5. Do we really understand this class well enough to meet individual needs?

Individual Case Studies

From the forty youngsters in the class tested, seven are here selected for individual consideration. These children were chosen because their test data offer possibilities for the beginnings of individual case studies. The test scores of these pupils to be considered are shown in Figure 2.

Before attempting to interpret the test results for these youngsters we must consider the nature of the tests used and the meanings of various grade placements for each child.

FIGURE 2
TEST DATA FOR SEVEN PUPILS SELECTED FROM A SAMPLE SEVENTH GRADE
CLASS OF FORTY PUPILS IN ALAMEDA COUNTY

Pupil's Name	BASIC DATA		MENTAL MATURITY			READING			ARITHMETIC			
	Chron. Age	Age Grade	Total	Non-Verb.	Verb.	I.Q.	Vocab.	Compr.	Av. Read.	Reas.	Fund.	Av. Arith.
Yr. Mo.	Yr. Mo.	Age Grade	Total	Non-Verb.	Verb.	I.Q.	Vocab.	Compr.	Av. Read.	Reas.	Fund.	Av. Arith.
Lenore	11 7	6.0	7.2	7.6	7.0	111	7.3	7.3	7.3	7.7	8.1	8.0
Leo	12 9	7.1	6.8	6.0	7.3	97	7.2	6.9	7.1	7.1	5.3	5.9
Robert	12 6	6.8	9.2	11.0	8.5	117	6.7	9.1	7.5	10.6	8.8	9.6
Dora	11 9	6.2	6.7	9.0	5.8	105	6.8	6.4	6.7	6.6	7.9	7.4
Martha	12 1	6.5	9.0	7.6	9.6	119	8.5	4.6	6.9	8.8	8.1	8.4
Sheryl	11 7	6.0	9.0	5.6	10.5	124	8.5	9.1	8.8	8.0	8.2	8.2
Ronald	12 4	6.7	7.6	12.2	5.8	107	6.2	6.3	6.3	7.4	6.5	6.8
Class Average	12 11	7.3	7.4	8.2	7.2	102	6.5	6.4	6.5	7.3	6.8	7.0

Note: All figures except I.Q. and chronological age are in grade placement.

Immediately following the name of each child is his age and age grade. The *age grade* is the grade that the child should be in according to his age.

The column *Total Mental Maturity* shows the mental grade placement of the child. It indicates the grade level of work that might be expected of the child on the basis of his intelligence. The next two columns, *Non-Verbal* and *Verbal*, are mental grade placements according to performance on the non-language and language sections of the *California Test of Mental Maturity*.

The columns *Vocabulary* and *Comprehension* under *READING* show grade placements on the vocabulary and comprehension sections of the reading test. Under *ARITHMETIC* the columns *Reasoning* and *Fundamentals* give grade placements on the reasoning and fundamentals sections of the arithmetic test.

In the light of test performance alone we can make certain observations and recommendations for the seven children listed in Figure 2.

1. LENORE —

This girl is one of the youngest in the class. Although almost a year and a half younger than class average, in achievement she is well above class average. Other things being equal, she seems to be well placed and should probably be left where she is.

2. LEO —

It will be noted that this youngster is low in average arithmetic. The arithmetic scores indicate that his weakness is in the fundamentals. Further testing might reveal bad habits or repeated errors of one type that could be easily corrected by some remedial teaching.

3. ROBERT —

The most accomplished member of the class in arithmetic. It will be noted that his reasoning grade placement is almost two years ahead of his placement in fundamentals. However, we could hardly expect his arithmetic fundamentals to rise much higher since he is already two years ahead of the rest of the class. A somewhat similar situation holds for Robert's reading scores. His vocabulary ability is almost two and one-half years below his comprehension, even though his vocabulary ability is ahead of class average. He could profit by vocabulary building activities, though he is not likely to get them. *Are we being fair to this bright boy?* Robert is a possible candidate for extra promotion and certainly a candidate for an enriched program in all areas.

4. DORA —

In arithmetic, fundamentals are 1.3 years ahead of reasoning placement. Perhaps she has been over-drilled in fundamentals and not exposed to situations in which she has had to think through problems in arithmetic. Dora's mental test scores indicate a marked non-verbal tendency. As a whole, her test performance is hard to interpret. More information is needed to give a clearer picture of this girl.

5. MARTHA —

This girl's reading data indicate she may be a word-caller. The matter of word-calling doesn't seem too serious because she is already better than average in reading. Since the class as a whole is low in reading, perhaps she will improve when the total group is given more attention.

6. SHERYL —

This girl is much like the last one, except that she seems more intelligent. Her mental test scores indicate a very high discrepancy in favor of verbal ability, almost five years. The fact that she is one of the youngest in the class, makes us wonder as to how she gets along socially with the others. Sociometric data and teacher observation are needed to give proper insight into this girl and her status within this group.

7. RONALD —

Ronnie is slightly below the class level of achievement, but not seriously so. His mental test scores, however, show that his non-verbal ability is almost six and one-half years ahead of his verbal ability. This very definitely indicates a non-intellectual reading handicap. If, by suitable remedial reading techniques, his verbal ability could be brought up to the level of his non-verbal ability, his measured I.Q. would rise from 107 to 141. Will the teacher help him? Here is a genius looking for a sponsor!

These observations, however, must not be accepted as absolute or final without further confirmation from other sources, including teacher observations.

The Working Heights of Elementary School Pupils as a Factor in School Construction

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THE ARCHITECT, in planning an elementary school, is concerned with the adjustment of heights to the variations among the children of the different grades. Failure to place working surfaces, drinking fountain orifices, chalk and tack board, shelving, and the like at comfortable heights, making use possible for the greatest number in each grade presents serious handicaps to school building utilization. The questions first to be raised are:

How tall are San Francisco children in their various age groups?

Do the heights vary by sections or racial groups?

Are San Francisco children taller or shorter than children elsewhere in the nation?

The Bureau of Research of the San Francisco Public Schools secured the answers by studying 2,560 children now attending the city's schools.

Standing Heights of Elementary School Children

By Grade and Age, June 1949

The survey was made in grades kindergarten to six of an unselected San Francisco school population. The 2,560 pupils whose heights are tabulated in the summaries which follow are typical of four distinct areas in

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Dr. Lillie Lewin Bowman, director of the Bureau of Research, San Francisco Unified School District, has a long record in the field of research. After serving for ten years as supervisor, she became assistant in the Bureau of Research, and four years ago was elevated to the directorship. Dr. Bowman has taught in both California and Oregon; she has served also as instructor and lecturer at the University of California, Berkeley, and at the University of North Dakota. She is a member of the editorial board of the California Journal of Educational Research.*

San Francisco. The 300 or more pupils at each grade level are representative of not only their own district but, with one exception, are typical of San Francisco children. Commodore Stockton School, which is almost 100 per cent Chinese, resembles the other three schools at kindergarten level only. Regardless of the fact that the children are somewhat older, on the average they are from one to two and one half inches shorter than children at the same grade level elsewhere in the city.

TABLE I
STANDING HEIGHTS BY GRADE:
2560 SAN FRANCISCO ELEMENTARY SCHOOL PUPILS, JUNE 1949

Height to Nearest Inch	(1) Kinder- garten	(2) First Grade	(3) Second Grade	(4) Third Grade	(5) Fourth Grade	(6) Fifth Grade	(7) Sixth Grade
67 plus	---	---	---	---	---	---	4
66	---	---	---	---	---	3	2
65	---	---	---	---	---	---	8
64	---	---	---	---	---	2	19
63	---	---	---	---	---	9	11
62	---	---	---	---	1	10	15
61	---	---	---	---	1	16	35
60	---	---	2	7	25	40	
59	---	---	3	6	49	34	
58	---	---	3	23	43	31	
57	---	1	5	35	49	36	
56	---	3	9	53	53	20	
55	---	1	29	51	31	22	
54	1	12	37	36	30	12	
53	3	17	57	50	15	9	
52	7	23	60	37	11	1	
51	13	41	64	29	9	---	
50	2	30	61	53	17	3	1
49	7	46	52	23	5	---	---
48	13	70	62	15	10	---	---
47	28	83	40	15	5	---	---
46	52	75	31	1	1	---	---
45	54	56	13	2	---	---	---
44	67	30	5	---	---	---	---
43	44	21	4	---	---	---	---
42	47	7	3	---	---	---	---
41	19	2	1	---	---	---	---
40	6	---	---	---	---	---	---
39	3	1	---	---	---	---	---
Total	342	445	370	378	367	358	300
Q ₃	46.3	48.8	51.1	53.9	56.7	59.5	61.5
Median	44.8	47.4	49.5	52.3	54.8	57.6	59.5
Q ₁	43.2	45.9	47.9	50.7	52.7	55.7	57.3

In Table I, columns 1 and 2, showing the heights of kindergarten and first grade children, it is interesting to note the extremely wide range of

heights. With the age range rarely exceeding one and one-half year, the heights range from 39 inches to 54 inches, the median height being 47.4 inches. Fifty per cent of the first grade children, however, are between 45.9 inches and 48.8 inches.

Although the age range widens as children progress through the grades, columns 3, 4, 5, 6, and 7, showing grades 2 to 6 inclusive, do not present a significantly wider range in heights.

A range of three inches, on the other hand, may represent the difference between good posture or poor posture and comfortable or uncomfortable working conditions. The need for flexibility in school working

TABLE II
HEIGHT BY AGE—KINDERGARTEN THROUGH GRADE SIX;
FOUR SAN FRANCISCO ELEMENTARY SCHOOLS, JUNE 1949

Height to Nearest Inch	Under 5-0	5-0 5-11	6-0 6-11	7-0 7-11	8-0 8-11	9-0 9-11	10-0 10-11	11-0 11-11	12-0 12-11	13-0 13-11	Total
67 plus...	---	---	---	---	---	---	---	3	1	---	4
66	---	---	---	---	---	---	2	2	---	1	5
65	---	---	---	---	---	---	---	5	2	1	8
64	---	---	---	---	---	---	---	11	6	4	21
63	---	---	---	---	---	---	5	12	2	1	20
62	---	---	---	---	---	3	15	8	---	26	
61	---	---	---	---	---	11	27	11	3	52	
60	---	---	---	1	7	17	36	12	1	74	
59	---	---	---	1	5	29	43	14	1	93	
58	---	---	2	18	37	32	12	---	101		
57	---	---	7	31	44	38	5	1	126		
56	---	3	11	42	43	35	4	---	138		
55	---	3	27	40	34	27	3	---	134		
54	2	12	32	34	28	19	1	---	128		
53	5	16	51	45	22	11	1	---	151		
52	13	29	51	29	17	---	---	---	139		
51	20	41	55	27	12	1	---	---	156		
50	6	33	59	44	19	5	1	---	167		
49	8	55	40	22	7	---	1	---	133		
48	24	76	41	21	6	2	---	---	170		
47	39	80	35	15	2	---	---	---	171		
46	2	60	74	22	1	1	---	---	160		
45	2	62	47	15	2	---	---	---	128		
44	6	70	22	1	---	---	---	---	99		
43	8	41	16	2	---	---	---	---	67		
42	12	37	6	2	---	---	---	---	57		
41	5	15	1	1	---	---	---	---	22		
40	2	4	---	---	---	---	---	---	6		
39	1	3	---	---	---	---	---	---	4		
Total	38	369	450	322	343	313	311	319	82	13	2560
Q ₃	44.1	46.7	49.3	51.6	53.9	56.6	58.7	60.9	61.9	64.7	56.2
Median ..	42.9	45.2	47.7	50.0	52.2	54.6	56.8	58.8	60.1	63.5	51.6
Q ₁	42.1	43.8	46.3	48.1	50.6	52.6	54.7	56.6	58.5	61.1	47.6

conditions is further emphasized by the fact that children of the same height may be found in grades 1 to 6 inclusive.

In the sixth grade of the school sampled, 25 per cent of the children were over 61½ inches tall. At the lower extreme, however, 10 per cent of the sixth grade pupils are shorter than the tallest 10 per cent in the third grade.

Table II, showing the height of children for each age, makes us aware of the fact that a wide range in height is not necessarily the by-product of retardation. Six-year-olds, for example, range from 41 inches to 54 inches. Ten-year-olds range from 48 inches to 66 inches. There are children five feet tall or taller in age levels 8 to 13 years inclusive.

Bennett in his volume on "School Posture and Seating" reports the standing heights of 1500 children of grades 1 to 12. Comparison shows approximately the same variations among grades as indicated in the San Francisco study.

Working Heights of School Children

The foregoing facts on standing heights of school children must be reduced to working heights to be usable by the architect. The chart of working heights presented here includes grades beyond the elementary. It has been prepared through analysis of situations in the local schools, the study of common planning practices, and by cross reference to the standing heights data shown in this survey.

TABLE III
SAN FRANCISCO CHART OF WORKING HEIGHTS IN INCHES
FOR KINDERGARTEN THROUGH GRADE 12

	Kinder- garten	Grades 1 - 3	Grades 4 - 6	Grades 7 - 9	Grades 10 - 12
BUILDING APPURTENANCES					
Door Knobs.....	36	36	36	36	36
Drinking Fountains.....	24	24-26	31	32	34
Lavatories.....	23	25-27	27	30	30
Light Switches.....	36	48	48	50	50
Panic Bar.....	30	30	30	36	36
Sinks.....	25	26-28	28-30	31	32
Soap Dispenser.....	34	40	44	44	44
Stair Riser Heights.....	6	6	6	6	6
Telephone.....	.....	36-40	48	60	60
Toilet Stalls.....	42	60	60	64	64
Towel Dispenser.....	40	40-46	48	54	60
Urinal.....	.....	36	36	36	48
		(3 inch platform optional)	(3 inch platform optional)	(4 inch platform optional)	(4 inch platform optional)

TABLE III — Continued

SAN FRANCISCO CHART OF WORKING HEIGHTS IN INCHES
FOR KINDERGARTEN THROUGH GRADE 12

	Kinder- garten	Grades 1 - 3	Grades 4 - 6	Grades 7 - 9	Grades 10 - 12
Wainscot, Toilet.....	42	60	60	64	64
Water Closet.....	12	12-14	16	16	16
Window Ledge.....	27	27	33+	33+	42+
Wainscot, Corridor and Community Room.....	54	54	54	60	60
BUILT-IN FIXTURES					
Cabinets —					
Books and Magazines.....	42	48	60	72	72
Display, Storage					
Top.....	54	58	60	70	84
Bottom.....	24	28	30	34	36
Storage and Supplies.....	72	72	72	72	84
Chalk Board					
Top.....	56	56-59	70-72	80	84
Bottom.....	20	20-23	28-30	34	36
Chalk Rail.....	20	20-23	28-30	34	36
Counters —					
General Office.....	33	33	36	38	42
Classroom Work.....	24	26-30	30-32	30-32	32
Cafeteria.....	30	30	30	36	38
Cafe (Home School).....	26	26	...	...	...
Hook, Coat (Toilet Stall).....	36	38-44	46-54	60	60
Lockers, Clothes and Books...	44	46-52	54-62	36	36
				or 72	or 72
Mirror (lower edge height)...	30	32-36	38-42	42	45
Hook Rail, Coats and Hats.....	36	38-44	46-54	60	60
Shelves —					
Books (Toilet Room).....	...	...	48	48	48
Books (Toilet Stall).....	...	...	48	48	48
Hat and Lunch Pail.....	42	48	52	...	...
Rails —					
Directional.....	24	30	34	34	34
Stair Hand.....	30	30	30	30	32
Tack Board					
Top.....	80	80	80	80	102
Bottom.....	20	24	24-30	34	36
Fire Extinguisher (Tank Type).....				TO BE RECESSED AT BASEBOARD HEIGHT	
EQUIPMENT					
Benches, Cafeteria.....	14 and 17	14 and 17	14 and 17	17	18½
Chairs.....	11-13	11-13	13-14½	16-17½	18
Chairs.....	...	15	16	...	...
Desks, Classroom.....	...	...	25-27	28-30	31
Desks, Classroom.....	...	...	29	...	...
Easels.....	4-5 ft.	6 ft.	...	...	...
	(Easels to be adjustable for various heights)				

TABLE III — Continued

SAN FRANCISCO CHART OF WORKING HEIGHTS IN INCHES
FOR KINDERGARTEN THROUGH GRADE 12

	Kinder- garten	Grades 1 - 3	Grades 4 - 6	Grades 7 - 9	Grades 10 - 12
Height Measuring Device.....	5 ft.	5 ft.	....	....	....
Pencil Sharpener.....	32	36	44	48	48
Screens, Folding.....	48	60	72	78	78
Seats.....	12	12-14	14-16	17	18
Stools.....	6	12	18	24	....
Tables —					
Cafeteria.....	23 and 28	23 and 28	23 and 28	28	31
Classroom.....	19	19-22	25-27	28-30	31
Classroom.....	....	25	29	....	....
Drawing.....	24	26-30	30-32	....	....
Work.....	24	26-30	30-32	30-32	32

The architect may find in the standing heights tables justification for variation from the working heights chart. The wide range of heights in each grade presents problems which must be thought through fully. In the first grade, for example, working height adjustments for children ranging from 39 inches to 53 inches in height will be difficult but not altogether impossible for certain installations. The median child is 47.4 inches tall and his needs should determine most decisions, but differences in heights may be made for features occurring in large numbers, such as working counters, hook rails, and especially movable equipment.

All of the foregoing facts are of significance in planning suitable facilities for working and learning in our schools.

* * * * *
The Television Habit Among High School Students

The scholastic grades of Roselle, New Jersey, high school students who watched television programs regularly dropped more than 15 per cent when they took up the viewing habit, according to the report of the officials of the Abraham Lincoln High School. The survey applied to 310 students who either have sets in their own homes or see programs regularly in neighbors' homes. The school's total enrollment is 990 students, of whom two thirds said they did not see video programs regularly. The results of the Roselle survey, for the most part, paralleled those of a similar survey conducted at the Burdick Junior High School of Stamford, Connecticut. The average amount of time devoted to television, according to the Roselle students, varied from 31 hours a week for those in the seventh grade to 19 hours for those in the twelfth grade. (New York Times, March 14, 1950)

CLASSIFIED BIBLIOGRAPHY OF GRADUATE THESES AND DISSERTATIONS IN EDUCATION OF CALIFORNIA COLLEGES AND UNIVERSITIES IN 1949

This classified bibliography includes the titles of all theses and dissertations completed at California colleges and universities in 1949. For the sake of convenience, the following categories are used to classify the studies:

I. Historical and Comparative Education	VI. Teacher Selection and Education
II. Curriculum	VII. Educational Sociology and Philosophy
III. Growth and Development	VIII. Higher Education
IV. Teaching and Learning	IX. Administration and Finance
V. Guidance and Counseling	X. General and Miscellaneous

To save space, colleges are designated as follows:

Claremont	Claremont Graduate School, Claremont
Pacific	College of the Pacific, Stockton
Stanford	Stanford University, Palo Alto
U.C.	University of California, Berkeley
U.C.L.A.	University of California at Los Angeles
U.S.C.	University of Southern California, Los Angeles

The listing of Masters' theses are to be found on pages 126 to 139; Doctors' dissertations are on pages 139 to 144. Copies of these studies are available for circulation and may be obtained by writing to the library of the college or university listed.

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